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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/090,573

03/04/2002

Sergey A. Korenev

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03/26/2004

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EXAMINER

BERMAN, JACK I

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/090,573

Applicant(s)

KORENEV, SERGEY A.

Examiner

Jack I. Berman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-18 is/are allowed.
- 6) ☒ Claim(s) 19-21, 23-36 and 38 is/are rejected.
- 7) ☒ Claim(s) 22 and 38 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/4/02, 8/1/03</u> . | 6) <input type="checkbox"/> Other: ____. |

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Applicant's traversal of the restriction requirement made in the previous Office action is well taken. The requirement is hereby withdrawn.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19-21 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crewson et al. Crewson et al. discloses an irradiation apparatus (electrodynamic accelerator device 80) comprising: an electron generator (particle gun assembly 81) including an evacuated chamber (see line 20 in column 8) in which electrons are generated and from which the electrons are emitted; a Tesla transformer (73) connected with the electron generator for boosting voltages from low level voltages to at least 100 kV and even up to and above 1 MV (1000 kV) (see lines 1-47 in column 5); a DC power supply (50) and control circuit (62) for selectively supplying bursts of the DC voltage to the transformer. Crewson et al. does not state that the apparatus is portable or that the DC voltage power supply is battery level, but it would have been obvious to a person having ordinary skill in the art to make the apparatus portable by supporting it on a handle for the sake of convenience. The use of a battery as a DC power supply is a common means to make an apparatus portable, so it would have been obvious to a person having ordinary skill in the art to use such a battery as Crewson et al.'s low level DC power supply in order to make the apparatus portable. The Crewson et al. apparatus must inherently have some kind of on/off switch in order to operate, and it would have been obvious to a person having ordinary skill in the art to provide this on/off switch in the form of a trigger adjacent a handle in a portable

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version of the apparatus. The duration of the pulses from the power supply would have been a matter of routine experimentation.

Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crewson et al. as applied to claims 19-21 and 23-26 above, and further in view of Romanovsky et al. At lines 7-15 in column 8, Romanovsky et al. teaches to include a cathode (8) and an anode outlet window (low-voltage electrode 7) in an electron generator, and that this anode outlet window include either a thin layer of aluminum, to permit the exit of electrons, or a tungsten foil to convert at least a portion of the electrons to x-rays. It would have been obvious to a person having ordinary skill in the art to apply the teachings of Romanovsky et al. to the Crewson et al. electron generator by including Romanovsky et al.'s cathode and anode outlet window in order to permit the exit of electrons or x-rays.

Claims 29, 31-34, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nablo (U.S. Patent No. 3,780,308). Nablo teaches to deactivate microbes (sterilize) surfaces by generating a pulsed electron beam of 50-200 keV (which overlaps the range of 100-1000 keV claimed in the instant application) and directing the beam at the surfaces to be sterilized while moving the objects having the surfaces through the electron beam. See lines 39-45 in column 5. Moving the structure which generates the electron beam across the surface would have been functionally equivalent to moving the surface past the structure which generates the electron beam, so the substitution of means for moving the structure which generates the electron beam for Nablo's means for moving the surface would have been an obvious substitution of equivalent parts. The type of objects to be sterilized would have been an obvious matter for routine experimentation.

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Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nablo as applied to claims 29, 31-34, and 38 above, and further in view of Luniewski. Luniewski teaches that sometimes x-rays are more effective than electrons for sterilization purposes, so it is advantageous to provide an electron beam sterilizer with a means (cover 10) for converting at least a portion of the electrons to x-rays. It would have been obvious to a person having ordinary skill in the art to apply the teachings of Luniewski to the Nablo apparatus.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nablo as applied to claims 29, 31-34, and 38 above, and further in view of Crewson et al. as applied to claims 19-21 and 23-26 above.

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nablo and Crewson et al. as applied to claim 35 above, and further in view of Romanovsky et al. as applied to claim 27 above.

Claims 22 and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-18 are allowed.

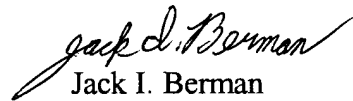
The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach to mount the capacitors connected to a Tesla coil of an electron generator axially within the Tesla coil.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack I. Berman whose telephone number is (571) 272-2468. The examiner can normally be reached on M-F (8:30-6:00) with every second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jack I. Berman
Primary Examiner
Art Unit 2881

jb
3/21/04